SCIENCE ABSTRACTS.

SECTION A.—PHYSICS.

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ERRATA.

Section A.—PHYSICS.

Abstract No. 404 line 1 : *for* M. Kameyama, *read* N. Kameyama.
Abstract No. 466, line 2 : *for* 656, *read* 686.
Abstract No. 1290, line 1 : *for* Miss A. Boutaric and V. F. Demora, *read* A. Boutaric and Miss V. F. Demora.
Abstract No. 1402, line 2 : *for* Schlidlof, *read* Schidlof.
Abstract No. 1721, line 3 : *for* March *read* Feb.
Abstract No. 1813, lines 4–6 should read : Hitherto dicyanine has been the best sensitiser for infra-red [Abstract 884 (1922)], but it does not keep. From 700 $m\mu$ to 800 $m\mu$ only, kryptocyanine is the most powerful sensitiser known.
Abstract No. 2061, line 2 : insert I. C. Gardner as author.
Abstract No. 2135, line 1 : *for* Crystals, *read* Cryostats.
Abstract No. 2280, last line : *for* S. R. R., *read* R. S. R.

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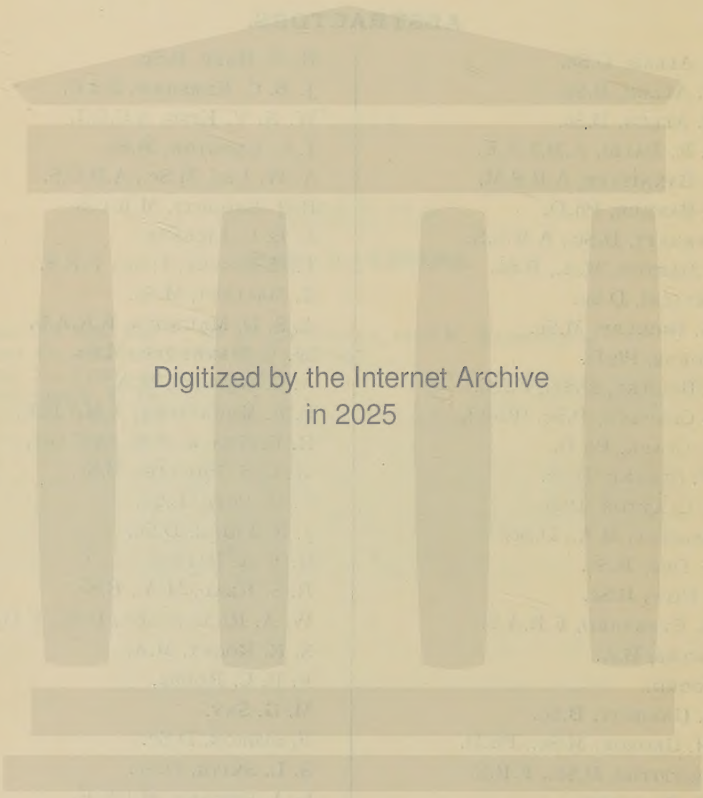

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LIST OF JOURNALS & ABBREVIATIONS USED THEREFOR

N/C

An asterisk (*) indicates that the Journals so marked were received only occasionally.

Abbreviation.	Full Title.
Accad. Lincei, Atti	Atti della Reale Accademia dei Lincei, Roma.
Acad. Polonaise Sci. et Lettres	Bulletin International de l'Académie Polonaise des Sciences et des Lettres.
Accad. Sci. Torino, Atti	Atti della Reale Accademia delle Scienze di Torino.
A.C.E.C.	Ateliers de Constructions Électriques de Charleroi.
Akad. Wiss. Wien, Ber.	Sitzungsberichte der Akademie der Wissenschaften, Wien, Mathematischnaturwissenschaftliche Klasse.
Am. Acad., Proc.	Proceedings of the American Academy of Arts and Sciences.
Am. Chem. Soc., J.	Journal of the American Chemical Society.
Am. Electrochem. Soc., Trans.	Transactions of the American Electrochemical Society.
Am. Illum. Eng. Soc., Trans.	Transactions of the American Illuminating Engineering Society.
Am. I.E.E., J.	Journal of the American Institute of Electrical Engineers.
Am. Inst. Mining Eng., Trans.	Transactions of the American Institute of Mining Engineers.
Am. J. Sci.	American Journal of Science.
Am. Phil. Soc., Proc.	Proceedings of the American Philosophical Society.
Ann. de Physique	Annales de Physique.
Ann. d. Physik	Annalen der Physik.
Annales des Postes, Télé.	Annales des Postes, Télégraphes et Téléphones.
*Ann. R. Scuola Ing. Padova	Annali della R. Scuola d'Ingegneria di Padova.
Arch. d'Él. Médicale	Archives d'Électricité Médicale.
Arch. des Sciences	Archives des Sciences Physiques et Naturelles, Genève.
Archiv f. Elektrot.	Archiv für Elektrotechnik.
Arkiv f. Kem. Min. o. Geologie, Stockholm	Arkiv för Kemi, Mineralogi och Geologie, Stockholm.
Ark. f. Mat. Astron. och Fysik, Stockholm	Arkiv för Matematik, Astronomie och Fysik, Stockholm.
Assoc. Ing. El. Liége, Bull.	Association des Ingénieurs Électriciens, Bulletin, Institut Electrotechnique Montefiore, Liége.
Astron. Iakttagelser Undersökning, Stockholms	Astronomiska Iakttagelser och Undersökningar Stockholms Observatorium.
Astron. J.	Astronomical Journal.
Astron. Nachr.	Astronomische Nachrichten.
*Astron. Soc. Pacific, Publ.	Publications of the Astronomical Society of the Pacific.
Astrophys. J.	Astrophysical Journal.
Automotor J.	Automotor Journal.
Bell System Techn. J.	Bell System Technical Journal.
*Bol. del Comitato Glaciologico Italiano	Bolletino del Comitato Glaciologico Italiano.
*Brit. Engine, Boiler and Elect. Insurance Co., Ltd., Techn. Report	British Engine, Boiler and Electrical Insurance Co., Ltd., Technical Report.
Brit. J. of Radiology	British Journal of Radiology.
Brown Boveri Rev.	Brown Boveri Review.
Bull. Astronomique	Bulletin Astronomique.
Bull. Oerlikon	Bulletin Oerlikon.
Bureau of Mines, Techn. or Sci. Papers	Technical or Scientific Papers of the Bureau of Mines (U.S. Department of the Interior).
Bureau of Standards, Bull.	Bulletin of the Bureau of Standards, Washington.

Abbreviation.	Full Title.
Calcutta Math. Soc., Bull.	Bulletin of the Calcutta Mathematical Society.
Cambridge Phil. Soc., Proc.	Proceedings of the Cambridge Philosophical Society.
Cambridge Phil. Soc., Trans.	Transactions of the Cambridge Philosophical Society.
Canad. Elect. News	Canadian Electrical News.
Chem. and Met. Eng.	Chemical and Metallurgical Engineering.
Chem. News	Chemical News and Journal of Physical Science.
Chem. Soc., J.	Journal and Proceedings of the Chemical Society of London.
Chem. Soc. Japan, Bull.	Bulletin of the Chemical Society of Japan.
Climatological Data, U.S. Dept. of Agriculture	Climatological Data of the U.S. Department of Agriculture.
Colliery Guardian	Colliery Guardian.
Comptes Rendus	Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences.
*Dept. of Terrest. Magnetism, Researches	Researches of the Department of Terrestrial Magnetism.
*Dominion Astrophys, Obs. Victoria, Publ.	Publications of the Dominion Astrophys. Observatory, Victoria.
Elect. Communication	Electrical Communication.
Elect. J.	Electric Journal.
El. Rev.	The Electrical Review (London).
El. Times	Electrical Times.
El. World	Electrical World.
Electrician	The Electrician.
El. Rly. and Tramway J.	Electric Railway and Tramway Journal.
Electrot. Laborat. Tôkyô, Japan, Researches	Researches of the Electrotechnical Laboratory, Tôkyô, Japan.
Elek. Betrieb	Der Elektrische Betrieb.
Elek. Nachrichten	Elektrische Nachrichten-technik.
Elek. u. Maschinenbau	Elektrotechnik und Maschinenbau.
Elekt. Zeits.	Elektrotechnische Zeitschrift.
Elettrotecnica	L'Elettrotecnica.
Engineer	Engineer.
Engineering	Engineering.
*Eng. Experiment Sta., Cornell Univ., Bull.	Bulletin of the Engineering Experiment Station, Cornell University.
Experimental Wireless	Experimental Wireless.
Faculty of Sci. Tôkyô, J.	Journal of the Faculty of Science, Tôkyô.
Faraday Soc., Trans.	Transactions of the Faraday Society.
Frank. Inst., J.	Journal of the Franklin Institute.
Gen. El. Rev.	General Electric Review.
Geofysiske Publ.	Geofysiske Publikationer.
Harvard Coll. Obs., Bull.	Bulletin of the Harvard College Observatory.
Harvard Coll. Obs., Circ.	Circular of the Harvard College Observatory.
Illum. Eng., London	Illuminating Engineer.
Imp. Acad. Tôkyô, Proc.	Proceedings of the Imperial Academy of Tôkyô.
Imp. Marine Obs., Kobe, Japan, Mem.	Memoirs of the Imperial Marine Observatory, Kobe, Japan.
Indian Assoc. for Cultivation of Science, Proc.	Proceedings of the Indian Association for Cultivation of Science.
*Indian Chem. Soc., Quarterly J.	Quarterly Journal of the Indian Chemical Society.
Indust. and Engin. Chem.	Industrial and Engineering Chemistry.
Inst. Civ. Eng., Proc.	Proceedings of the Institution of Civil Engineers.
Inst. El. Eng., J.	Journal of the Institution of Electrical Engineers.
Inst. El. Eng. of Japan, J.	Journal of the Institution of Electrical Engineers of Japan.
Inst. El. Eng. of Japan, Selected Papers	Selected Papers of the Institution of Electrical Engineers of Japan.
Inst. Eng. and Shipbuilders, Trans.	Transactions of the Institution of Engineers and Shipbuilders in Scotland.
Inst. Mech. Eng., Proc.	Proceedings of the Institution of Mechanical Engineers.

Abbreviation.	Full Title.
Inst. Naval Architects, Trans.	Transactions of the Institution of Naval Architects.
Inst. of Metals, J.	Journal of the Institute of Metals.
Inst. Phys. and Chem. Research, Tôkyô, Sci. Papers	Scientific Papers of the Institute of Physical and Chemical Research, Tôkyô.
Inst. Radio Eng., Proc.	Proceedings of the Institute of Radio Engineers.
*Internat. Geodet. and Geophys. Union, Bull.	Bulletin of the International Geodetic and Geophysical Union.
Iron and Steel Inst., J.	Journal of the Iron and Steel Institute.
Japanese J. of Chem.	Japanese Journal of Chemistry.
Japanese Journ. Maths.	Japanese Journal of Mathematics.
Japanese Journ. Phys.	Japanese Journal of Physics.
J. de Physique et le Radium	Le Journal de Physique et le Radium.
J. Math. Phys., Mass. Inst. of Technology	Journal of Mathematics and Physics, Massachusetts Institute of Technology.
J. Phys. Chem.	Journal of Physical Chemistry.
Journ. Sci. Instruments	Journal of Scientific Instruments.
Journ. Télégraph.	Journal Télégraphique.
K. Akad. Amsterdam, Proc.	Proceedings of the Koninklijke Akademie van Wetenschappen te Amsterdam.
K. Vetenskapsakad. Nobelinst., Medd.	Meddelanden fråu Vetenskapsakadamiens Nobelinstitut.
Kolloid Zeits.	Kolloid Zeitschrift.
Kyoto Coll. Eng., Mem.	Memoirs of the Kyoto Imperial University College of Engineering.
Kyoto Coll. Sci., Mem.	Memoirs of the College of Science, Kyoto Imperial University.
Kyushu Univ. Coll. Eng., Mem.	Memoirs of the Kyushu Imperial University College of Engineering.
Leeds Philosoph. and Lit. Soc., Proc.	Proceedings of the Leeds Philosophical and Literary Society.
Lick Observat., Bull.	Bulletin of the Lick Observatory.
Manchester Phil. Soc., Mem.	Memoirs and Proceedings of the Manchester Literary and Philosophical Society.
Mechanical Engineering	Mechanical Engineering (Am. Soc. M.E.).
Meteorolog. Office, Prof. Notes and Geophys. Mem.	Professional Notes and Geophysical Memoirs of the Meteorological Office.
Meteorolog. Zeits.	Meteorologische Zeitschrift.
Monthly Weather Rev.	Monthly Weather Review.
Nat. Acad. Sci., Proc.	Proceedings of the National Academy of Sciences.
*Nat. Research Council, Bull.	Bulletin of the National Research Council.
Nature	Nature.
N. Cimento	Nuovo Cimento.
Observatory	The Observatory.
Onde Élec.	L'Onde Électrique.
Optical Soc. America, J. and Rev. Sci. Inst.	Journal of the Optical Society of America and Review of Scientific Instruments.
Optical Soc., Trans.	Transactions of the Optical Society.
Phil. Mag.	Philosophical Magazine and Journal of Science.
Phot. J.	Photographic Journal.
Phys. Math. Soc. Japan, Proc.	Proceedings of the Physico-Mathematical Society of Japan.
Phys. Rev.	Physical Review.
Phys. Soc., Proc.	Proceedings of the Physical Society of London.
Phys. Zeits.	Physikalische Zeitschrift.
Post Office Elect. Eng., J.	Post Office Electrical Engineers' Journal.
Power	Power.
Preuss. Akad. Wiss. Berlin, Ber.	Sitzungsberichte der Preussischen Akademie der Wissenschaften zu Berlin.
Q.S.T. Français et Radioélectricité	Q.S.T. Français et Radioélectricité.
R. Accad. Navale Livorno, Boll. Radiotelegrafico.	Reale Accademia Navale Livorno, Bolletino Radiotelegrafico.
Radioélectricité	Radioélectricité, now Q.S.T. Français et Radioélectricité.
Rev. de Mét.	Revue de Métallurgie.
Rev. d'Optique	Revue d'Optique Théorique et Instrumentale.

Abbreviation.	Full Title.
Rev. Gén. d'Él.	Revue Générale de l'Électricité.
Roy. Astron. Soc. Canada, J.	Journal of the Royal Astronomical Society of Canada.
Roy. Astron. Soc., M.N.	Monthly Notices of the Royal Astronomical Society.
Roy. Dublin Soc., Proc.	Proceedings of the Royal Dublin Society.
Roy. Inst., Proc.	Proceedings of the Royal Institution of Great Britain.
Roy. Irish Acad., Proc.	Proceedings of the Royal Irish Academy.
Roy. Meteorolog. Soc., J.	Quarterly Journal of the Royal Meteorological Society.
Roy. Soc. Arts, J.	Journal of the Royal Society of Arts.
Roy. Soc. Canada, Trans.	Transactions of the Royal Society of Canada.
Roy. Soc. Edinburgh, Proc.	Proceedings of the Royal Society of Edinburgh.
Roy. Soc., Phil. Trans.	Philosophical Transactions of the Royal Society of London.
Roy. Soc., Proc.	Proceedings of the Royal Society of London.
Roy. Soc. Tasmania, Proc.	Proceedings of the Royal Society of Tasmania.
Roy. Soc. Victoria, Proc.	Proceedings of the Royal Society of Victoria.
Schweiz. Elektrot. Verein, Bull.	Bulletin des Schweizerischen Elektrotechnischen Vereins.
Science	Science.
*Sci. Assoc. Maharajah's Coll., Vizianagaram J.	Journal of the Science Association of the Maharajah's College, Vizianagaram.
*Sibley J. of Eng.	Sibley Journal of Engineering, Iltham, N.Y.
Soc. Belge Élect., Bull.	Bulletin de la Société Belge des Électriciens.
Soc. Franç. Élect., Bull.	Bulletin de la Société Française des Électriciens.
S. African Inst. El. Eng., Trans.	Transactions of the South African Institute of Electrical Engineers.
S. African Mining and Eng. J.	South African Mining and Engineering Journal.
*Survey of India, Records	Records of the Survey of India.
Teleg. u. Fernspr. Techn.	Telegraphen und Fernsprech Technik.
Terrest. Magn.	Terrestrial Magnetism and Atmospheric Electricity.
Tôhoku Math. J.	Tôhoku Mathematical Journal.
Tôhoku Univ., Sci. Reports	Science Reports of the Tôhoku Imperial University.
Tôkyô Univ. Aeronaut Research Inst., Report	Report of the Aeronautical Research Institute, Tôkyô Imperial University.
Tôkyô Univ. Coll. of Eng., J.	Journal of the Tôkyô Imperial University College of Engineering.
Union Obs. S. Africa, Circ.	Circular of the Union Observatory of South Africa.
Univ. of Illinois Eng. Exp. Sta., Bull.	Bulletin of the Engineering Experiment Station of the University of Illinois.
*Univ. Naç. La Plata, Estudio Ciencias.	Universitad Naçionale de La Plata Contribucion al Estudio de las Ciencias Fisicas y Matematicas.
Washington Acad. Sci., J.	Journal of the Washington Academy of Sciences.
Wireless World and Radio Rev.	Wireless World and Radio Review.
World Power	World Power.
*Yerkes Observat., Publ.	Publications of the Yerkes Observatory.
Zeits. Elektrochem.	Zeitschrift für Elektrochemie.
Zeits. f. Hochfrequenztechn.	Zeitschrift für Hochfrequenztechnik.
Zeits. f. Metallkunde	Zeitschrift für Metallkunde.
Zeits. f. Physik	Zeitschrift für Physik.
Zeits. Instrumentenk.	Zeitschrift für Instrumentenkunde.
Zeits. Math. u. Mechanik	Zeitschrift für angewandte Mathematik und Mechanik.
Zeits. phys. Chem.	Zeitschrift für physikalische Chemie.
Zeits. techn. Physik.	Zeitschrift für technische Physik.
Zeits. Vereines deutsch. Ing.	Zeitschrift des Vereines deutscher Ingenieure.
Zeits. Wiss. Phot.	Zeitschrift für Wissenschaftliche Photographie, Photophysik und Photochemie.